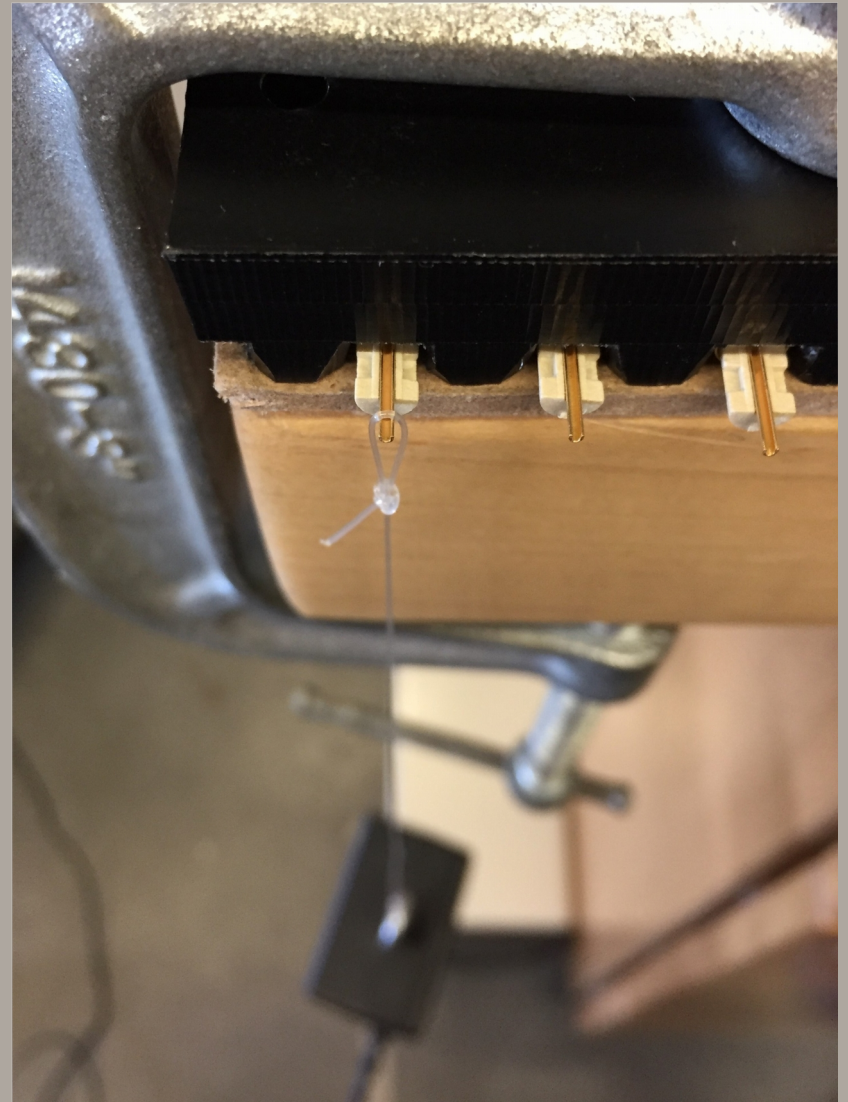


Endpiece Pin Strength, Relaxation Update

Sam Penders
August 9, 2017

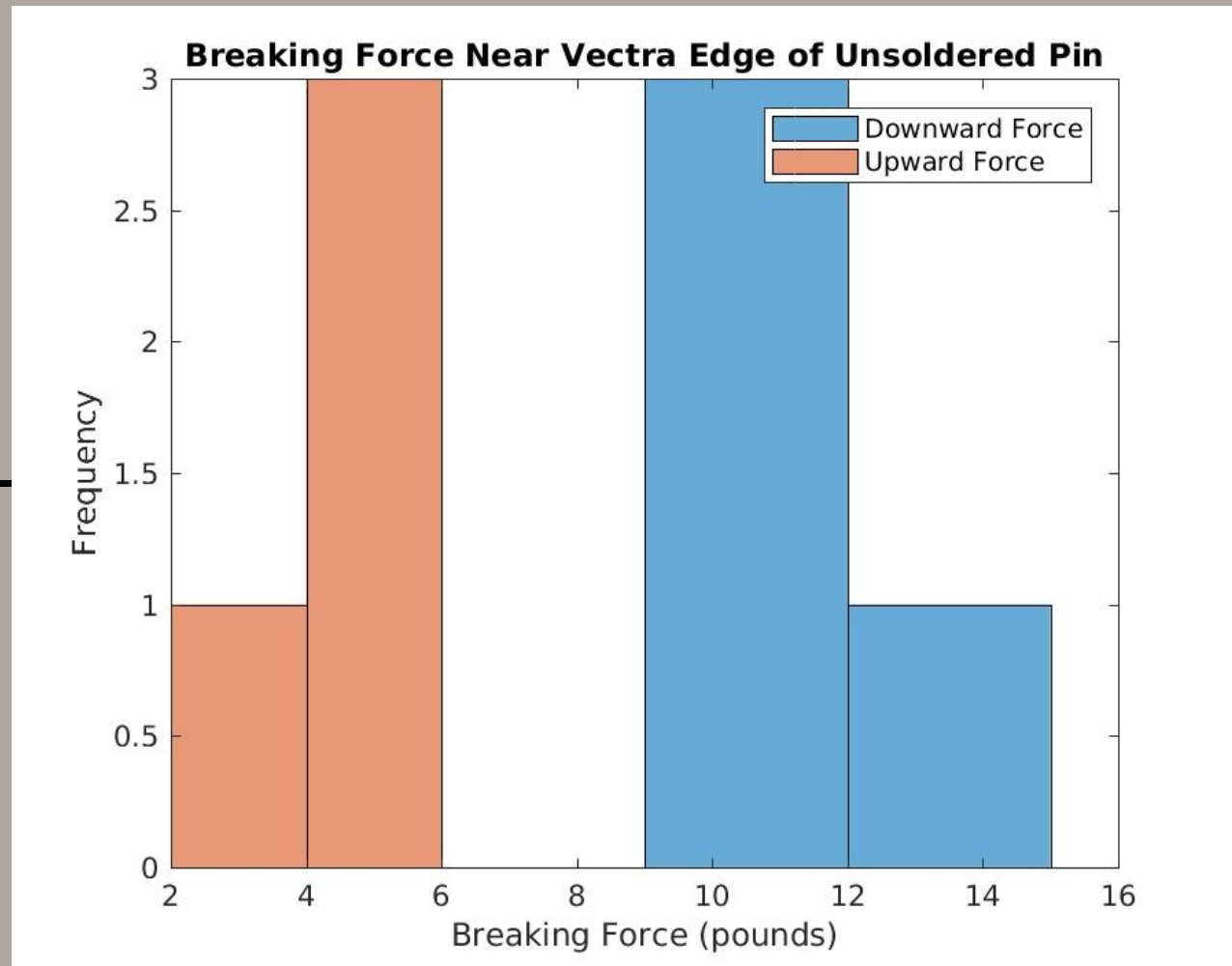
Endpiece Pin Strength

- Want to know strength of epoxy on pin before and after soldering
- Procedure: clamp endpiece and pull with fishing line / force sensor
 - Half pulled down, half pulled up



Unsoldered* Endpieces

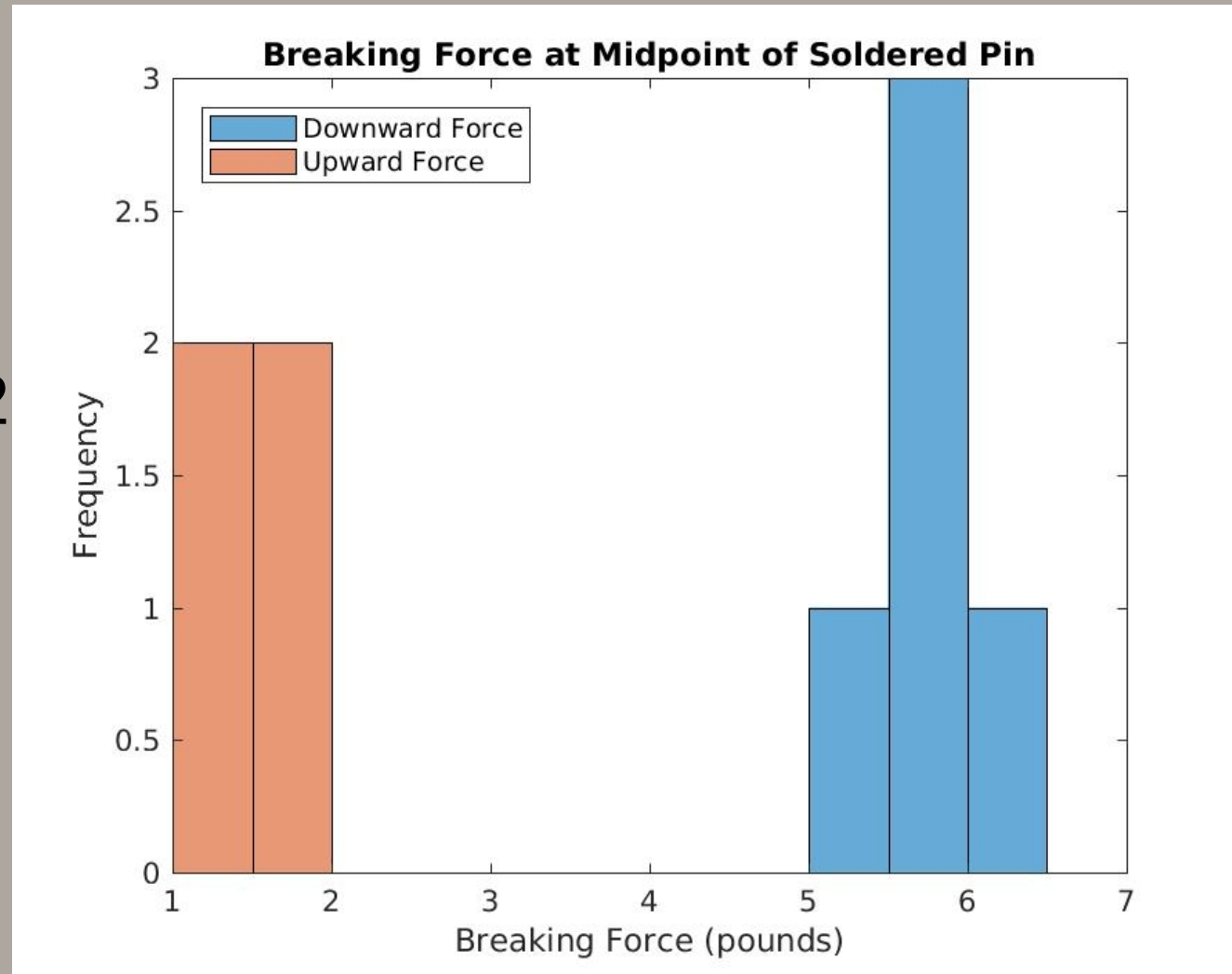
- Tested misc. (reused) endpieces laying around
- Many downward-force pins bent; didn't break



*It turns out some of these had actually been soldered

Soldered Pins

- Iron at 400 C – held to pin and melted solder
 - Approximately 2 seconds of contact
 - May have held iron too long

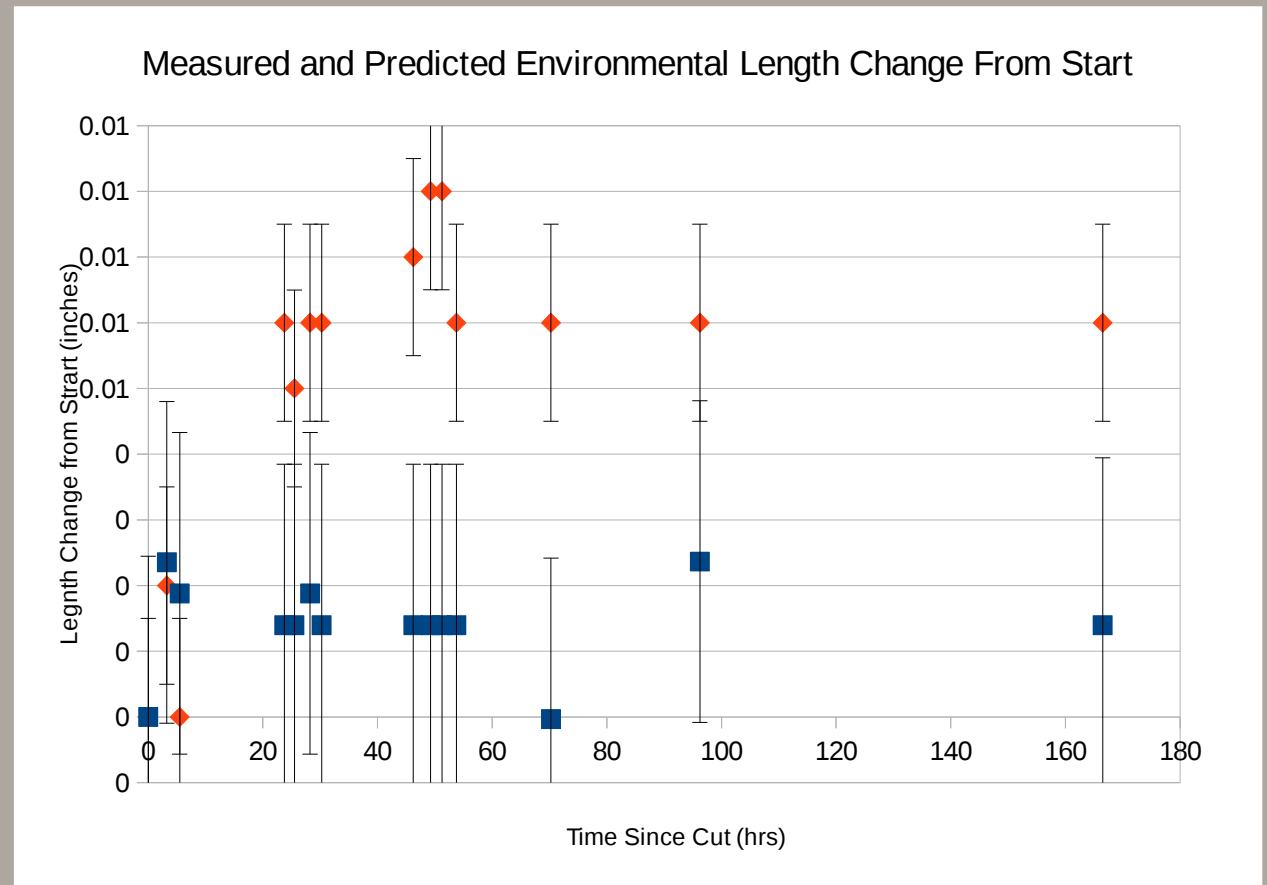


Conclusions

- Avg. downward breaking force for soldered pins (5.3 ± 0.7) pounds less than unsoldered
- Avg. upward breaking force for soldered pins (3.3 ± 0.1) less than unsoldered
- Pin epoxy is pretty strong
- Paper now on docDB

Straw Relaxation Temp/Humid

- How does predicted length change in control straws from environment compare to measurements?
- Red: measured
- Blue: predicted
-



Future Relaxation Tests

- Paper draft on relaxation now on docDB
- Preliminary results: after 24hr tensioning and full relaxation, full length straws are 10-15 mils longer than before tension
- Will tension set for 3 days; see how behavior compares to 1 day